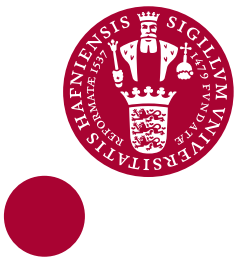

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Activating more students through blended online and in-class discussions

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This study shows that teachers in international classes can use blended online and in-class discussions to activate more students from a student group with diverse educational cultures and different preferences for mode of discussion, thereby contributing to improved learning via several mechanisms, than any one mode of discussion can do alone. This has implications for the use of discussions in courses, where blended teaching is possible.

Introduction

The aim of this study is to investigate how the educational background, personality and origin of university students affect their preference for and perception of online and in-class discussions, and to explore if an integrated use of both modes of discussion can activate more students in the collaborative learning process that takes place during discussions. The interest in student personalities and how they may affect participation in discussions and associated learning outcomes is brought about by my own teaching experiences in the Master course 'Agricultural value chains in developing countries' that so far is almost entirely based on class-room lectures and discussions and group work. Students from more than 20 countries follow the course each year and there seems to be a recurrent pattern in which students take most part in the in-class discussions, based on nationality and personality.

Student diversity – learning style diversity

In international study programs, university teachers meet a diverse group of students from many different countries and with different educational backgrounds. The students are influenced by pre-established knowledge and previous experiences of teaching cultures and norms of behavior and communication between students and teachers, which may vary from country to country. The result are classes of students with different preferences for learning, not only related to the educational psychological learning style categorizations, such as those by Kolb (e.g. Joy and Kolb, 2009; Yamazaki, 2005) and Entwistle and others (Manikutty, Anuradha, and Hansen, 2007; Strang, 2010), but also in terms of students' preferences for and abilities to engage with other students and teachers in collaborative efforts for knowledge acquisition, construction and application. The latter is related to the social aspects in learning, e.g. as in Vygotsky´s cognitive development through social interaction, and the social element in Kuhn's work on critical thinking, where discussions of ideas with peers are essential in knowledge building (Guiller, Durndell, and Ross, 2008). It is specifically of importance when learning is pursuit through discussions among students and with the teacher. This is often the case in social science master courses in Denmark, where students are expected to participate actively in discussions that are set in a more or less fixed frame, and often in an open atmosphere with no need for 'Sir' or 'Madam' when addressing the teacher; a situation that many foreign students are not acquainted with when taking their first course in Denmark. Most students are used to targeted discussions, where the frame for and goal of the discussion is clear and fixed. However, many discussions, especially in social science courses, are explorative and without a clear goal, which require more of the students in terms of reflection on knowledge and argumentation for support of own ideas and view-points rather than reproducing knowledge. The explorative discussions may be challenging and uncomfortable for students with backgrounds in teaching cultures with clear hierarchical boundaries between students and teachers and where students are not expected to challenge or oppose the views of the teacher.

The use of online learning environments and platforms adds a new dimension to the use of discussions in learning. Online discussions may cater more to a particular type of students who are more comfortable in written than verbal argumentation and to the more introvert and reflective students, who in general prefer to work alone, with ample time for argumentation,

rather than in the more dynamic setting of a face-to-face group setting (Offir, Bezalel, and Barth, 2007; Felder and Soloman, 2000). There are many studies on online and face-to-face (f2f) discussions, either as a comparison of the two or based on a comparison of different groups of students and approaches to learning, e.g. Campbell, Gibson, Hall, Richards, and Callery, 2008; Ellis, Goodyear, Calvo, and Prosser, 2008 and Bliuc, Ellis, Goodyear, and Piggott, 2010. These and similar studies generally find that the learning outcomes from either one of the two modes of discussion depends on the students' conception of learning (cohesive or fragmented) and approach to learning (deep or surface). Very few studies – none, as far as my searches go – have looked empirically at the positive effects on learning from integrating online and f2f or in-class discussions on the same topic, creating a synergy between the two. A few, such as Guiller et al., 2008, do discuss the positive effects on learning that blended discussion may have by allowing students to carry-over discussion elements (opinions, ideas, meaning, etc.) from one discussion to the next. This transfer of elements is depicted in Fig. 24.1.

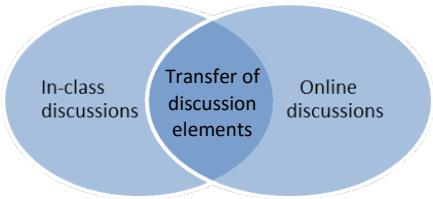

Fig. 24.1: Transfer of discussion elements from one mode of discussion to the next may facilitate better learning in blended teaching.

In this study, I focus on the blended discussions, integrating in-class and online discussions. This is done in the context of courses in international study programs as described above. My hypotheses are: H1. Students' preference for one mode of discussion over the other depends on personality and educational background in a certain culture; and H2. The use of integrated in-class and online discussions can contribute to overall higher student participation in discussions through transfer of ideas, views, statements and other elements from one mode of discussion to the next. The results of the study are expected to contribute to a better use of comple-

mentary in-class and online discussions, not least in classes with a diverse student group, such as in the course I teach.

Survey of students in international study programs

In order to obtain data on a sufficiently high number of students of different nationalities and with different personalities, I developed an online survey using the website Survey Monkey. The survey consisted of 18 closed-end questions concerning i) basic information, ii) personality, and iii) experiences of and preferences for online and in-class discussions, as well as three open-end questions regarding benefits of online and in-class discussions and experiences of how one mode of discussion may enhance and facilitate participation in the other mode of discussion. The six personality questions were Yes/No questions, inspired by extroversion / introversion personality tests. By far sufficient to reveal any depth of personality, the questions were used to distinguish two groups of students. Group 2 students (5 or 6 Yes-answers) are more often characterized by being reflective, preferring lectures and 1-on-1 conversations over discussions, and rather express themselves in writing than verbally. Group 1 students (4 or less Yes answers) have fewer of the same characteristics and are sometimes the direct opposite; active, preferring group activities and the spoken word.

The questionnaire was sent to 215 current students and recent graduates from international Master programs at the University of Copenhagen (UCPH); Agricultural Development, Sufonama, Sutrofor, Agris Mundus, and Agricultural Economics. A total of 60 students responded, of which 54 students completed the questionnaire, corresponding to a response rate of 25 %. It is a relatively low number of responses which only allows for limited, simple statistical analysis, and the results, mainly purely descriptive and carried out in Excel, are therefore best seen as tendencies in the surveyed student group that may be investigated further in a larger study.

The 54 respondents came from 26 countries from five continents, thus representing a multitude of cultures. The respondents were first divided into three groups based on nationality and culture; the Scandinavian countries and culture; other European countries and North America representing Western European cultures; and remaining countries which consisted of students from the cultural mix of Latin America, Africa and Asia[1]. Answers

[1] This may not be the best division of students, since e.g. in terms of so called high-context cultures (non-verbal behavior and covert clues are important for

to the personality questions were summarized for each of the three groups in order to gain a better understanding of differences between the groups. Students were subsequently divided into Group 1 and Group 2, as described above, for an analysis of perceptions of and preferences for online, in-class and blended discussions between the two types of students.

All nationalities and personalities prefer in-class discussions

Table 24.1 shows the number and percentages of Yes answers to the six personality questions. The Scandinavian students most often stand alone with the lowest share of students who prefer to express themselves in writing, prefer not to show work before it is finished, and tend to think before they speak. The latter is not necessarily an indication of blurting untimely, unthoughtful statements, but rather of being fast to reply without much reflection which may or may not be an advantage in in-class discussions. Overall, looking at the number of Yes answers, only 18 % of the Scandinavian students fall into group 2 (reflective, preferring individual work and the written word), while 37 % and 56 % of the Other European + N. Americans and the Latin American, Asian and African students, respectively, fall into group 2.

Table 24.1: Number of positive answers and percentage within each group for the six personality questions.

Student origin	Number	Prefer to express myself in writing	Told being a good listener	Prefer 1-on-1 conversation	Do not show unfinished work	Think before speaking	Prefer lectures > discussions	Generally prefer f2f discussions
Scandinavia	17	8 (47 %)	15 (88 %)	12 (71 %)	4 (24 %)	10 (59 %)	9 (53 %)	15 (88 %)
Other Europe + N. America	19	13 (68 %)	15 (79 %)	10 (53 %)	8 (42 %)	15 (79 %)	9 (47 %)	14 (78 %)
Others	18	12 (67 %)	15 (83 %)	13 (72 %)	9 (50 %)	17 (94 %)	12 (67 %)	14 (78 %)

When asked if they generally prefer in-class or online discussions, the majority of students in all groups prefer the in-class discussion. In terms

meaning) and in self-construal interdependent-self (surrounding social context important for self), Southern European countries are closer to some Asian and African countries than Western Europe (Yamazaki, 2005). The three groups were an easy solution based on the low number of respondents.

of involvement in discussions, receiving most responses to own discussion entries, finding the discussion most suitable for reaching learning outcomes (knowledge, skills, and competences), and generally preferring one mode of discussion, the largest share of students in all three groups answered 'in-class discussions'. The largest shares, though by far significantly higher, were found among the Scandinavian students for all questions (See Table B2 in Appendix A). The largest difference among nationalities was that the majority of students from Latin America, Asia and Africa feel most comfortable online, while more Scandinavian students feel most comfortable in in-class discussions. Table 24.2 shows the experiences with and perceptions of in-class and online discussions among students in personality group 1 and 2. Again, the largest difference is that Group 2 students feel most comfortable online, as would be expected, while group 1 students do not show a clear tendency.

Table 24.2: Percentage of respondents in each group that answers "in-class discussions" / "No difference" / "online discussions" to questions regarding their perceptions of and experience with in-class and online discussions.

Personality group	Number	More involved	Most responses to own posts	Feel most comfortable	Most suitable for learning	Overall preference
Group 1	34	(50 / 29 / 21)	(62 / 12 / 26)	(35 / 35 / 29)	(71 / 15 / 15)	(85 / - / 12)[1]
Group 2	20	(45 / 30 / 25)	(55 / 10 / 35)	(15 / 15 / 70)	(65 / 15 / 20)	(70 / - / 30)

Based on the results presented so far, Scandinavian students show less variability in their personality and in experiences with and perceptions of online and in-class discussion compared with students from outside Scandinavia. These findings are similar to the findings of De Vita, 2001 for UK, and follow the same logic; the surveyed students from outside Scandinavia are from a large number of countries with different cultures, and are thus formed through very different student socialization processes (Barmeyer, 2004). In terms of general preference for in-class discussions, neither personality type nor nationality seem to be influential. Furthermore, gender, age and number of online or blended courses did not show to have an effect on preference for one discussion over the other.

The benefits of discussions

Students from both Group 1 and 2 mention a number of common benefits for in-class over online discussions, such as faster pace, more direct and dynamic, engaging, and more personal. Also easier spontaneity, fewer misunderstandings, and generation of new and shared ideas are mentioned in both groups. Only Group 2 students mention that in-class discussions can help them train verbal discussion skills and listening, but contrary to Group 1 students, they do not mention any kind of social aspects or group interaction as being a benefit. This corresponds to their more individualistic preferences compared to Group 2 students. Flexibility and better time to reflect and formulate arguments and new ideas are among the well-known positive sides of online discussions mentioned by both groups of students. In fact, Kanuka, Rourke, and Laflamme, 2007 found that online discussions are better than other online activities for reflective thinking, hypothesis testing and acting on new knowledge, due to the better time available. Only the less reflective and more open personalities in Group 1 mention specifically – and several times – that online discussions provide time to use literature to help create arguments and give more detail to the discussion. Likely, group 2 students do not mention this as they more generally and 'by default' take the time to use literature and reflect upon it in any kind of teaching activity. Summaries of answers can be found in Appendix A.

Better outcomes from blended discussions

Around 1/3 of the group 1 students and half the Group 2 students were aware of their experiences on how one mode of discussion had enhanced and facilitated participation in the other mode. The slightly higher awareness among Group 2 students could be explained by these students generally being more reflective in a group activity, as they prefer individual work and may even be intimidated by group discussions, especially in-class. The student-quotes in Box 1 are excerpts from answers to questions regarding the benefits of blended discussions and are examples of some of the most frequently mentioned benefits.

Box 1. Student-quotes from online survey, regarding the benefits of blended discussions.

"*Because you go in depth in your material when doing online discussions you are much more prepared for the classes.*" (Brazilian student in Group 2)

"*In-class discussions are a good way to clear up doubts for the more complicated, literature-based, online discussions*". (German student in Group 1)

"*It* (online discussion) *can help break down barriers*". (Danish student in Group 1)

Fig. 24.2

Several students mentioned the use of online discussions to help them go through the literature, get additional views from other students, structure the acquired and shared knowledge, and in the process increase self-confidence, thereby providing an overall good basis for subsequent in-class discussions. The other way around; the in-class discussions are experienced as providing a good platform for brainstorming new ideas (fast, dynamic) and for attaining a better understanding of difficult terms, concepts and topics (going in-depth), before taking the new knowledge to the more structured and easier-to-navigate online discussions.

If integrated, the two modes of discussions are mutually reinforcing in a number of ways, as depicted in a simplified manner in Figure 2. When students in their preferred mode are allowed to create a discussant identity and link that identity to the acquisition, creation, and provision of knowledge in the discussion group, they may carry over this identity to the alternative mode of discussion. In-class group discussions were mentioned to help create a social and comfortable space that can be transferred to and facilitate subsequent discussions online. Online, the identity is created in the process of breaking down barriers and posting the first 'harmless' discussion entry followed by a possibly 'conflicting' entry in the discussion, where the student 'shows colors'. Online discussion entries may be made mandatory, which is technically possible in Absalon used by UCPH, so as to force all students to participate. This was mentioned by students in both Group 1 and 2 as a good way to facilitate full participation and provide insights from otherwise 'quiet' students that could also enrich subsequent in-class discussions. The mutual benefits of blended learning are not present if not planned for through a clear link from one discussion to the next. One student complained about this missing link in a course using blended teaching and had not experienced any complementarities between the two modes of discussion.

Concluding remarks and practical implications

The results only partially support hypothesis H1, as all students generally preferred in-class discussions, while non-Scandinavian students showed higher variability in their perceptions of and involvement in online and in-class discussions. A larger number of respondents would permit a better grouping of students and more insights to the effect of personality and culture. Hypothesis H2 is not only confirmed, but also expanded to include identity creation and confidence building transferred from one discussion to the other. A student-quote on the use of both online and in-class discussions provides the best conclusion:

"A combination of them is perfect!" (German student).

The results provide argumentation for careful planning by teachers to capture the mutual benefits and reinforcing aspects of blended discussions, not least in international classes. For example, an initial in-class discussion can focus on brainstorming, negotiating meaning of difficult topics, and spontaneous creation of ideas and opinions, as well as on creating a common social frame for discussions. Online platforms may then provide a more structured and literature-based discussion, while also breaking down barriers for some students. The documented online discussion may finally be rounded-off in a subsequent in-class discussion.

The results call for changes to my own course, where online discussions are not yet used. I have no doubt the use of blended discussions, with the insights from this study in mind, would facilitate a broader participation in the discussions that I often use in my teaching, to the benefit of all students in the class.

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A Select results from online questionnaire

The questionnaire was sent to 215 current students and recent graduates from the international Master programs at UCPH, Agricultural Development, Sufonama, Sutrofor, Agris Mundus, and Agricultural Economics. A total of 60 students responded, of which 54 completed the questionnaire, corresponding to a response rate of 25 %. The 54 responses came from students representing 26 countries (Austria, Bolivia, Brazil, Canada, China, Colombia, Denmark, Ecuador, Ethiopia, France, Germany, Ghana, Greece, Hungary, Iceland, Italy, Mexico, Nepal, Pakistan, Slovakia, Sweden, Tanzania, Uganda, UK, USA, and Zimbabwe). Of the 54 students, 34 (63%) came from Europe and 34 (63%) were female. In Table B1 below the students are grouped by nationality as described in the table.

Table 24.3: Number of positive answers and percentage within each group for the six personality questions.

Student origin	Number	Prefer to express myself in writing	Told being a good listener	Prefer 1-on-1 conversation	Do not show unfinished work	Think before speaking	Prefer lectures over discussions
Scandinavia	17	8 (47 %)	15 (88 %)	12 (71 %)	4 (24 %)	10 (59 %)	9 (53 %)
Other Europe + N. America	19	13 (68 %)	15 (79 %)	10 (53 %)	8 (42 %)	15 (79 %)	9 (47 %)
Others	18	12 (67 %)	15 (83 %)	13 (72 %)	9 (50 %)	17 (94 %)	12 (67 %)

Based on the six Yes-No personality questions, 34 students fell into group 1 (active, preferring group activities and the spoken word) and 20 students fell into group 2 (being reflective, preferring lectures and 1-on-1 conversations over discussions, and rather express themselves in writing than verbally). As a control questions, students were asked if they were willing to participate in a follow-up group interview. Of the 20 ‘introverts’, only 3 (15%) answered yes to participate, while 15 of the 34 ‘extroverts’ (44%) would participate (difference is significant at p=0,029 in a t-test).

Table 24.4: Percentage of respondents in each group that answers ”in-class discussions” / ”No difference” / ”online discussions” to questions regarding their perceptions of and experience with in-class and online discussions.

Origin or personality group	Number	More involved	Most responses to own posts	Feel most comfortable	Most suitable for learning	Overall preference
Scandinavia	17	(53 / 24 / 24)	(71 / 0 / 29)	(41 / 29 / 29)	(82 / 6 / 12)	(88 / - / 12)
Other Europe + N. America	19	(47 / 37 / 16)	(53 / 16 / 32)	(21 / 42 / 37)	(58 / 26 / 11)	(74 / - / 21)[1]
Others	18	(44 / 28 / 28)	(56 / 17 / 28)	(22 / 11 / 67)	(67 / 11 / 22)	(78 / - / 22)
Group 1	34	(50 / 29 / 21)	(62 / 12 / 26)	(35 / 35 / 29)	(71 / 15 / 15)	(85 / - / 12)[1]
Group 2	20	(45 / 30 / 25)	(55 / 10 / 35)	(15 / 15 / 70)	(65 / 15 / 20)	(70 / - / 30)

Table B3 gives an overview of the answers to closed-end and open questions from students in two groups, based on their being mostly introvert or mostly extrovert.

Table 24.5: Overview of responses from four groups of students.

	'Extrovert' group 1. n=34	**'Introvert' group 2. n=20**
Origin and gender	Scandinavian 14/34 Female 23/34	Scandinavian 3/20 Female 11/20
What are the main benefits of a class-room discussion compared to a class room discussion?	Dynamic, Direct, immediate feedback , more natural, instant, flexible, engaging Collaboration, Interaction, group work, group interaction, Speed, spark, Energy, flow, active, lively, fast, time-saving Social aspects, social interaction, More personal, involve people Body language, verbal expression, see people (deeper communication) Deeper understanding of subject, all info discussed=do not loose info Brainstorming, spontaneity easier Follow-up Q&A's faster, Fewer misunderstandings Shared outcomes easier Inclusion, everyone's view	Train verbal discussion skills, and listening skills More memorable, better learning Direct, immediate feedback, natural, easier progress, more active, engaging, direct feedback, Faster, Effective, easier to follow Personal, sympathy More expressive, see people Brainstorming, Spontaneity easier, new ideas, Follow-up Q&A's faster, Fewer misunderstandings, elaborations faster Shared ideas More inclusive

What are the main benefits of an online discussion compared to a class room discussion?	Train writing skills Better time, longer reflections, time to think Flexible in time and space, Easier to understand complex topics More detailed, focused More in-depth with literature (lit): More detailed discussion due to lit. More based on literature/science, better argumentation (lit), citing Easier to compare lit. findings Learning to discuss based on lit. Easier to express ideas Easier for non-English speakers Easier to navigate discussion Overview of others' views Documentation, details kept, also for later reference Not intimidated by teacher, less exposed Includes off-campus students Students rated on content and not presence. Mandatory participation adds extra views from quiet students. Better for introverts	Train writing and reading skills, and formulation of arguments, Better time, Easier to concentrate, better reflections, Flexibility, Time to formulate arguments Better for critical thinking Easier to express ideas, express oneself Easier to navigate discussion Documentation, also for later reference Less intimidating, people open up more, less exposed Less risk of few people dominating, Forced participation (+) Better for introverts
Online discussions enhance/facilitate participation in in-class discussions?	Yes: 11 (33 %) No: 12 (36 %) Don't know: 10 (30 %)	Yes: 9 (45 %) No: 4 (20 %) Don't know: 7 (35 %)
How do online discussions enhance/ facilitate in-class discussions?	Online discussions' use of literature helps subsequent in-class discussions. Structured information from online discussions made a good basis for f2f discussions Works as preparation for in-class discussion (use of literature, more informed answers, basis for f2f discussions) Increased confidence in subsequent in-class discussions. Online discussions were summarized and closed in in-class sessions In-class discussion related back to earlier online discussions Brake-down barriers before f2f.	In-depth online discussion prepare you for the in-class discussions The views of other students adds to literature and thereby enhance later in-class discussions In-class discussions were great to finish online discussions.

In-class discussions enhance/ facilitate participation in online discussions?	Yes: 10 (30%) No: 12 (36%) Don't know: 11 (33%)	Yes: 11 (55 %) No: 3 (15 %) Don't know: 6 (30 %)
How do in-class discussions enhance/ facilitate online discussions?	Difficult terms and concepts made clear in-class before or after an online discussion. Difference of opinions between students more easily discussed in-class for later structured online discussion. In-class discussion opened a debate that was later finished more structurally online. Views not expressed satisfactorily could be repeated online.	If in-class discussion was not finished, it was continued online. The more dynamic in-class discussion make people think of new aspect that can be brought into online discussions. In-class discussion made it clear what was to be discussed online afterwards. The social aspects of in-class group discussions help to improve online discussions.
Both-ways / integration of the two	Summarizing an f2f discussion and putting to text in a following online discussion, saving it for later reference The blended discussions enables critical thinking	In-class discussion can be a clue or a guide for the online discussion and vice-versa. Combining the two works best. Remember points and arguments from one that can be used in the other.

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